

# NOTES ON THE TAXONOMY OF INDO-PACIFIC TEREBRIDAE (MOLLUSCA: GASTROPODA), WITH DESCRIPTION OF A NEW SPECIES

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*Abstract.* A species of Terebridae from the Indo-West Pacific is described as new and a substitute name is proposed for the homonymous *Terebra monile* Quoy & Gaimard. *T. albomarginata* Deshayes, *T. archimedis* Deshayes, *T. pallida* Deshayes and *T. lauta* Pease, are now considered to be synonyms of previously described species.

Recent visits to Museums in London and Paris and examination of type-specimens of Terebridae in these Institutions, have greatly assisted in the elucidation of the identity of previously obscure species of Terebridae. Although much work remains to be accomplished on the range of variability in Terebridae species, sufficient evidence is available in species where larger series of specimens are available. Consequently, taxa previously considered to be valid biospecies will disappear in synonymy of chronologically prior species-names.

## Family TEREBRIDAE Moersch, 1852

1852. *Terebrina* Moersch, Cat. Conchyl. Yoldi 1 : 74.  
1853. *Acusidae* Gray, Ann. Mag. Nat. Hist. ser. 2, 11 (62) : 129 (based on *Acus* Gray, 1847 — *non* Lacepède, 1803).  
1853. *Terebrinae* H. & A. Adams, Gen. Rec. Moll. 1:224.  
1969. *Pervicaciidae* Rudman, Veliger 12 (1) : 63.

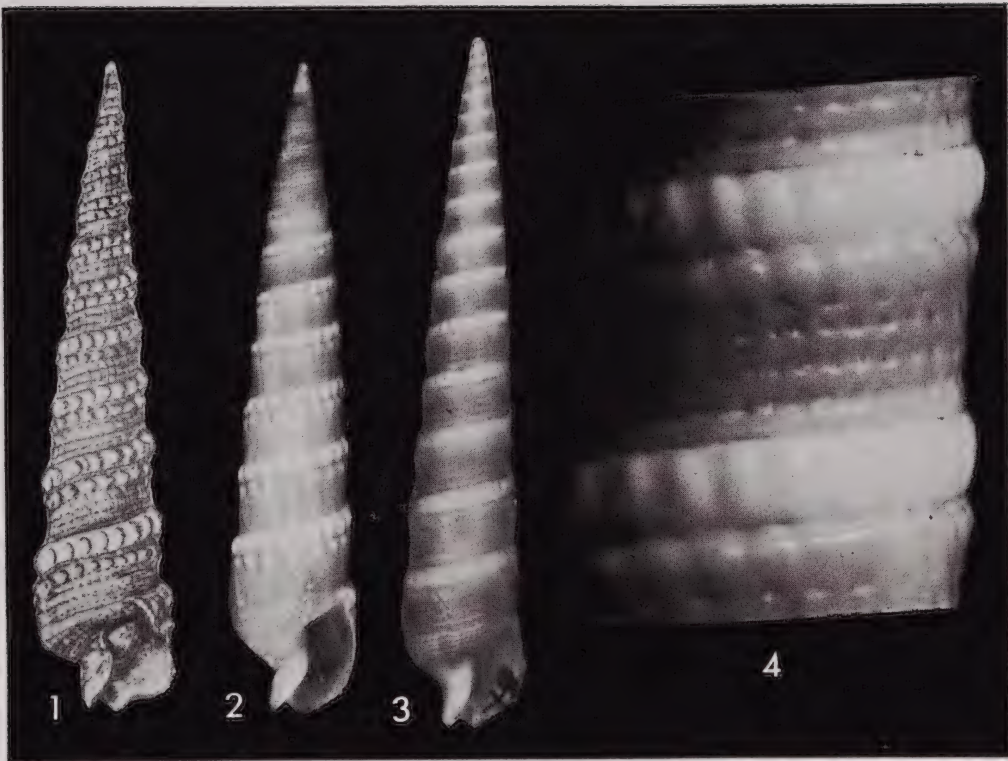
## Genus *Terebra* Bruguière, 1789

*Terebra* Bruguière, Encycl. Méth. Hist. Nat. Vers. 1 : xv. Type species by SM (Lamarck, 1799) *Buccinum subulatum* Linnaeus, 1767. Recent, Indo-Pacific.

## *Terebra amanda* Hinds, 1844

(Figs. 1-4)

1844. *Terebra amanda* Hinds, Proc. Zool. Soc. Lond. Pt. 11 : 154; 1844 Hinds in Sowerby, Thes. Conchyl. 1 : 166, pl. 45, fig. 100; 1859 Deshayes, Proc. Zool. Soc. Lond. Pt. 27 : 315; 1860 Reeve, Conch. Icon. 12 : page facing pl. 1; 1885 Tryon, Man. Conch. 7 : 30, pl. 9, fig. 61; 1967 Cernohorsky, Mar. shells Pacific 1 : 196, pl. 49, fig. 351; 1972 Hinton, Shells New Guinea p. 46, pl. 23, fig. 21.  
1859. *Terebra albomarginata* Deshayes, Proc. Zool. Soc. Lond. Pt. 27 : 314; 1860 Reeve, Conch. Icon. 12 : pl. 15, fig. 65; 1885 Tryon, Man. Conch. 7 : 29, pl. 9, fig. 54; 1944 Tomlin, J. Conch. 22 (5) : 107; 1969 Cernohorsky, Veliger, 11 (3) : 211; 1975 Coleman, What Shell is That, p. 236, fig. 657.



Figs. 1-4. *Terebra amanda* Hinds. 1. Lectotype figure (from Hinds in Sowerby, 1844, pl. 45, fig. 100). 2. Specimen from Natadola, Fiji Is; length 40.0 mm. 3,4. Holotype of *T. albomarginata* Deshayes, BMNH, 44.5 x 7.8 mm.

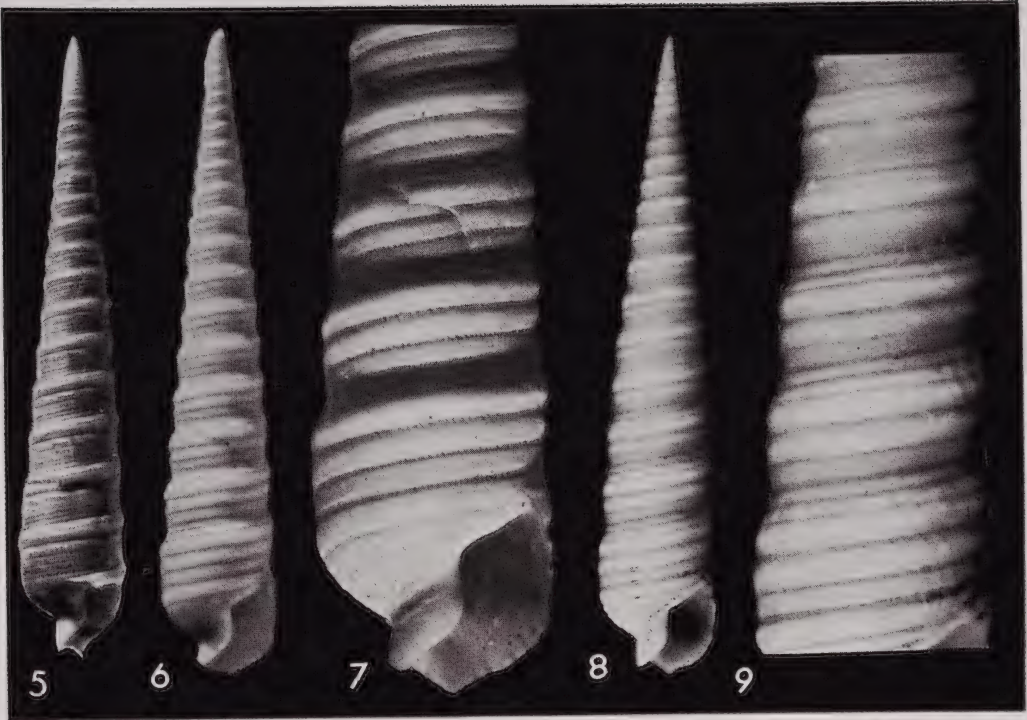
1966. *Terebra (Perirhore) amanda* Hinds, Cernohorsky & Jennings, *Veliger*, 9 (1) : 49, pl. 5, fig. 17.
1967. *Terebra (Dimidacus) amanda* Hinds, Bratcher & Burch, *Veliger*, 10 (1) : 9.
1967. *Terebra (Dimidacus) albomarginata* Deshayes, Bratcher & Burch, *Veliger*, 10 (1) : 9.
1967. *Dimidacus stamineus (sic)* Gray, Habe & Kosuge, *Stand. book Jap. shell col.* 3 : 102, pl. 40, fig. 19 (non *Terebra straminea* Gray, 1834).

TYPE LOCALITY. Straits of Macassar, Indonesia, 11 fathoms (20 m) (*T. amanda*); Australia (*T. albomarginata*).

Type specimens. The type of *T. amanda* Hinds, is lost. The holotype of *T. albomarginata* Deshayes, length 44.5 mm, width 7.8 mm (Fig. 3, 4), is in the British Museum (Nat. Hist.), London.

DISTRIBUTION. Red Sea to the Hawaiian Is.

The type of *T. amanda* Hinds, has been reported lost as early as 1860 by Reeve (1860), and several searches in the British Museum (Nat. Hist.), London, for the type proved fruitless. Hinds' original description and well-executed illustration of the missing type (Fig. 1) show all the salient points of the species and *T. albomarginata* is without doubt conspecific with



Figs. 5-9. *Terebra funiculata* Hinds. 5. Syntype BMNH, length 50.3 mm. 6, 7. Holotype of *T. archimedis* Deshayes, École de Mines, Paris; length 31.0 mm. 8, 9. Specimen from Lomalagi, Fiji, Is; length 40.5 mm.

*T. amanda*. The species is characterised by a double-row of sutural nodules and the punctate spiral grooves. It is very variable in colour, ranging from yellow to orange and orange-brown.

Hinds' type figure (Hinds in Sowerby, 1844, pl. 45, fig. 100) is here designated as the lectotype of *T. amanda* (Fig. 1).

***Terebra funiculata* Hinds, 1844**

(Figs. 5-9)

1844. *Terebra funiculata* Hinds, Proc. Zool. Soc. Lond. Pt. 11 : 153; 1844 Hinds in Sowerby, Thes Conchyl. 1 : pl. 43, fig. 63; 1859 Deshayes, Proc. Zool. Soc. Lond. Pt. 27 : 312; 1860 Reeve, Conch. Icon. 12 : pl. 12, fig. 48; 1885 Tryon, Man. Conch. 7 : 19, pl. 9, fig. 60; 1937 Viader, Mauritius Inst. Bull. 1 (2) : 5; 1952 Tinker, Pacific Sea shells, p. 22, facing pl., figs. upper row, centre; 1960 Weaver, Hawaiian Mar. Moll. 1 (2) : 6, pl. 2, fig. bottom left; 1967 Cernohorsky, Mar. shells Pacific 1 : 200, pl. 50, fig. 369; 1967 Kay, Hawaiian Shell News 15 (7) : 1, 2 figs. on right; 1969 Cernohorsky, Veliger 11 (3) : 215.
1859. *Terebra archimedis* Deshayes, Proc. Zool. Soc. Lond. Pt. 27 : 314; 1860 Reeve, Conch. Icon. 12 : pl. 12, fig. 48 (in synonymy of *T. funiculata* Hinds); 1944 Tomlin, J. Conch. 11 (5) : 107; 1967, Kay, Hawaiian Shell News 15 (7) : 1, 2 figs. on left; 1972 Hinton, Shells New Guinea p. 46, pl. 23, fig. 17.
1921. *Terebra langfordi* Pilsbry, Proc. Acad. Nat. Sci. Philadelphia 72 : 304, pl. 12, fig. 6.
1921. *Terebra langfordi angustior* Pilsbry, Proc. Acad. Nat. Sci. Philadelphia 72 : 304, pl. 12, fig. 6.

1966. *Terebra* (*Perirhoe*) *funiculata* Hinds, Cernohorsky & Jennings, *Veliger* 9 (1) : 51, pl. 5, fig. 22.
1966. *Terebra* (*Perirhoe*) *langfordi* Pilsbry, Cernohorsky & Jennings, *Veliger* 9 (1) : 51, pl. 5, fig. 23.

TYPE LOCALITY. None (*T.funiculata* and *T.archimedis*); off Honolulu, Hawaiian Is, 6-8 fathoms (11-15 m) (*T.langfordi*); Honolulu dredger dump (*T.langfordi angustior*).

*Type specimens.* Two syntypes of *T.funiculata* Hinds, length 50.3 mm and 46.5 mm (Fig. 5) are in the British Museum (Nat. Hist.), London. The holotype of *T.archimedis* Deshayes, length 31.0 mm, width 5.8 mm (Fig. 6, 7) is in the École de Mines, Paris. The types of *T.langfordi* Pilsbry, given size 41.0 x 7.8 mm and 50.0 x 9.0 mm, and of *T.langfordi angustior* Pilsbry, given size 29.0 x 5.0 mm, are in the Academy of Natural Sciences, Philadelphia.

DISTRIBUTION. Mauritius to South Africa, Japan and the Hawaiian Is, 0 - 183 m.

*T.funiculata* is an extremely variable species and intergrades between all sculptural forms are found. In the main forms of this species, the spiral sculpture consists of either a double or triple sutural band which is followed by 2-3 convex cords, or 3 flat cords or 6 shallow, axially striate grooves; in some individuals the sutural bands are followed by indistinct cords and curved axial growth-striae.

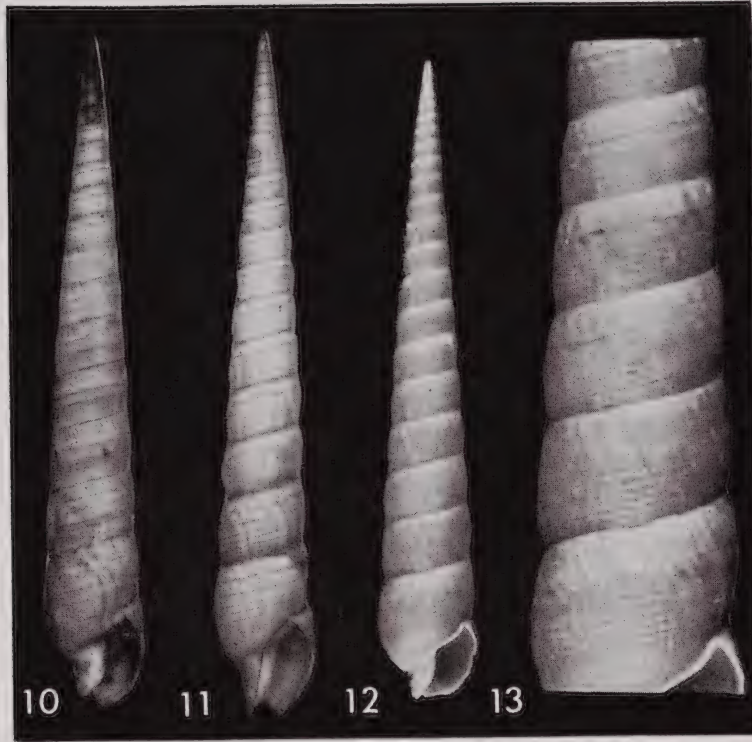
### ***Terebra punctatostrata* Gray, 1834**

(Figs. 10-13)

1834. *Terebra punctatostrata* Gray, *Proc. Zool. Soc. Lond. Pt. 2* : 61; 1844 Hinds, *Proc. Zool. Soc. Lond. Pt. 11* : 163 (in synonymy of *T.cingulifera* Lamarck, 1822); 1859 Deshayes, *Proc. Zool. Soc. Lond. Pt. 27* : 320; 1969 Cernohorsky, *Veliger* 11(3) : 218.
1857. *Terebra pallida* Deshayes, *J. Conchyl.* 6 : 87, pl. 4, fig. 3; 1859 Deshayes, *Proc. Zool. Soc. Lond. Pt. 27* : 311; 1944 Tomlin, *J. Conch.* 22 (5) : 107; 1967 Cernohorsky, *Marine Shells Pacific* 1 : 205, pl. 51, fig. 382; 1969 Cernohorsky, *Veliger* 11 (3) : 218; 1972 Hinton, *Shells New Guinea* p. 48, pl. 24, fig. 19.
1860. *Terebra cingulifera* Lamarck (*pars*), Reeve, *Conch. Icon.* 12 : pl. 11, fig. 44a only; 1885 Tryon, *Man. Conch.* 7 : 27 pl. 8, fig. 36 only (*non* Lamarck, 1822).
1931. *Perirhoe exulta* Iredale, *Rec. Austral. Mus.* 18 : 224, pl. 25, fig. 3.
1966. *Terebra* (*Perirhoe*) *pallida* Deshayes, Cernohorsky & Jennings, *Veliger*, 9 (1) : 52, pl. 5, fig. 19.
1967. *Dimidacus cinguliferus* (Lamarck). Habe & Kosuge, *Stand. book Jap. shell col.* 3 : 102, pl. 40, fig. 15 (*non Terebra cingulifera* Lamarck, 1822).

TYPE LOCALITY. None (*T.punctatostrata*); Marquesas Is (*T.pallida*); Sydney Harbour, Australia (*P.exulta*).

*Type specimens.* The holotype of *T.punctatostrata* Gray, is in the British Museum. (Nat. Hist.), London, length 70.2 mm (Fig. 10). Three syntypes of *T.pallida* Deshayes, are in the same Institution, length of designated lectotype 71.8 mm. The type of *Perirhoe exulta* Iredale, is in the Australian Museum, Sydney.



Figs. 10-13. *Terebra punctatostrata* Gray. 10. Holotype BMNH No. 74.11.10.1; length 70.2 mm. 11. Lectotype of *T. pallida* Deshayes, BMNH; length 71.8 mm. 12 13. Specimen from Natadola, Fiji Is; length 98.0 mm.

DISTRIBUTION. Tropical Pacific.

*T. punctatostrata* Gray, is not conspecific with *T. cingulifera* Lamarck, 1822, as assumed by some authors, but is an earlier name for *T. pallida* Deshayes. There is a resemblance to *T. cingulifera*, but in this species the whorls are almost straight-sided or even slightly concave and turreted with an obvious sutural band visible in profile, and the spiral grooves are prominently punctuate. The whorls of *T. punctatostrata* are convex and slightly inflated, the sutural band is weakly developed and not visible in profile, and the colouring is usually more reddish-orange or reddish-brown than in *T. cingulifera*.

*T. pallida* is a composite species. The two smaller syntypes, length 59.2 mm and 51.9 mm, are examples of *T. cingulifera* Lamarck, and only the largest, 70.2 mm long syntype is conspecific with *T. punctatostrata* Gray. We therefore designate the largest, 71.8 mm syntype as the lectotype of *T. pallida* Deshayes (Fig. 11).

***Terebra quoygaimardi* nom. n.**

(Figs. 14-15)

1833. *Terebra monile* Quoy & Gaimard, Voy. L'Astrolabe, Zool. 2 : 467, pl. 36, figs. 21, 22; 1838 Kuester, Syst. Conch. Cab. ed. 2, 5 (2) : 29, pl. 6, fig. 10 (*non Buccinum monile* Linnaeus, 1771 = *Terebra*),



Figs. 14-16. 14,15 *Terebra quoygaimardi* nom.n. 14. Holotype of *T.monile* Quoy & Gaimard, Mus. Nat. d'Hist. Nat., Paris; length 43.8 mm. 15. Specimen from Pearl reef, Great Barrier reef, Qld., Australia; length 37.8 mm. 16. *T.monile* (Linnaeus), probable holotype, Linn. Soc. Lond.; length 36.7 mm.

1844. *Terebra monilis* Quoy & Gaimard, Hinds, Proc. Zool. Soc. Lond. Pt. 11 : 163; 1844 Hinds in Sowerby, Thes. Conchyl 1 : 168, pl. 43, figs. 65, 66; 1844 Deshayes & Edwards, His. nat. anim. s. vert. ed. 2, 10 : 258; 1859 Deshayes, Proc. Zool. Soc. Lond. Pt. 27 : 312; 1860 Reeve, Conch. Icon. 12 : pl. 11, fig. 42a; 1885 Tryon, Man. Conch. 7 : 28, pl. 8, figs. 47, 48 (in synonymy of *T.straminea* Gray); 1967 Cernohorsky, Marine shells Pacific 1 : 204, pl. 51, fig. 377.
1964. *Terebra* (*Cinguloterebra*) *monilis* Quoy & Gaimard, Shikama, Select. Shells world col. 2 : pl. 69, fig. 19.
1966. *Cinguloterebra monilis* (Quoy & Gaimard), Habe & Kosuge, Shells world col. 2 : 99, pl. 39, fig. 14.
1967. *Dimidacus monilis* (Quoy & Gaimard), Habe & Kosuge, Stand. book. Jap. shells col. 3 : 102, pl. 40, fig. 17.

TYPE LOCALITY. Marianas and Caroline Is.

*Type specimens.* The holotype of *T.monile* Quoy & Gaimard (= *T.quoygaimardi* nom.n.), is in the Muséum National d'Histoire Naturelle, Paris, length 43.8 mm, width 6.9 mm (Fig. 14); one paratype measures 41.2 x 6.7 mm.

DISTRIBUTION. Andaman Is to Mauritius, Nth. Australia, Micronesia and Japan.

Dodge (1956), who treated Linnaeus' *Buccinum* species in detail, and several authors before him, concluded that *Buccinum monile* Linnaeus, 1771, is a *Terebra* of unknown identity. A specimen in the Linnaean collection of the Linnaean

Society, London, contains a *Terebra* species 36.7 mm in length and 7.2 mm in width, which appears to be a very faded *T.undulata* Gray, 1934 (Fig. 16). This particular specimen is undocumented and has been segregated by Hanley from an unmarked box. Since the origin of this probable type-specimen is unknown, it is better to consider *T.monile* (Linnaeus) as a *nomen dubium*, and retain *T.undulata* Gray in malacological literature. Since *Terebra monile* Quoy & Gaimard, 1833, is a secondary homonym of *Buccinum monile* Linnaeus, 1771, it is here replaced with *T.quoygaimardi*.

***Terebra parkinsoni* sp. n.**

(Figs. 17-21)

Shell moderately small, up to 30.0 mm in length, slender and shining, teleoconch of 14½-16 mature, weakly convex whorls, protoconch multispiral, consisting of 3½-3¾ smooth, glassy, conoidal embryonic whorls which are separated from each other by a narrow sutural band; early whorls sculptured with fine, sharp and slightly curved axial ribs, later whorls with broad, roundly angulate axial ribs which are straight at the sutures and then become arcuate; axial ribs number from 13-16 on the penultimate and from 14-17 on the body whorl, ribs broadening from summit towards interspaces, sutural band only weakly indented and obsoletely indicated by single pits in interspaces, remaining spiral sculpture consisting of short, flat grooves which do not ascend the walls of the axial ribs; spiral grooves number from 6-10 on the penultimate and from 10-19 on the body whorl. Axial ribs cease at the anterior third of the body whorl and are then followed by 5-6 fine spiral threads, siphonal fasciole with up to 10 macrostriae. Outer lip thin and convex, columella without a callus and with a simple basal fold, siphonal fasciole with an elevated, oblique cord, siphonal notch distinct. Base colour shining white, cream or pale beige, ornamented with dark orange-brown between most of the axial ribs on the last six whorls.

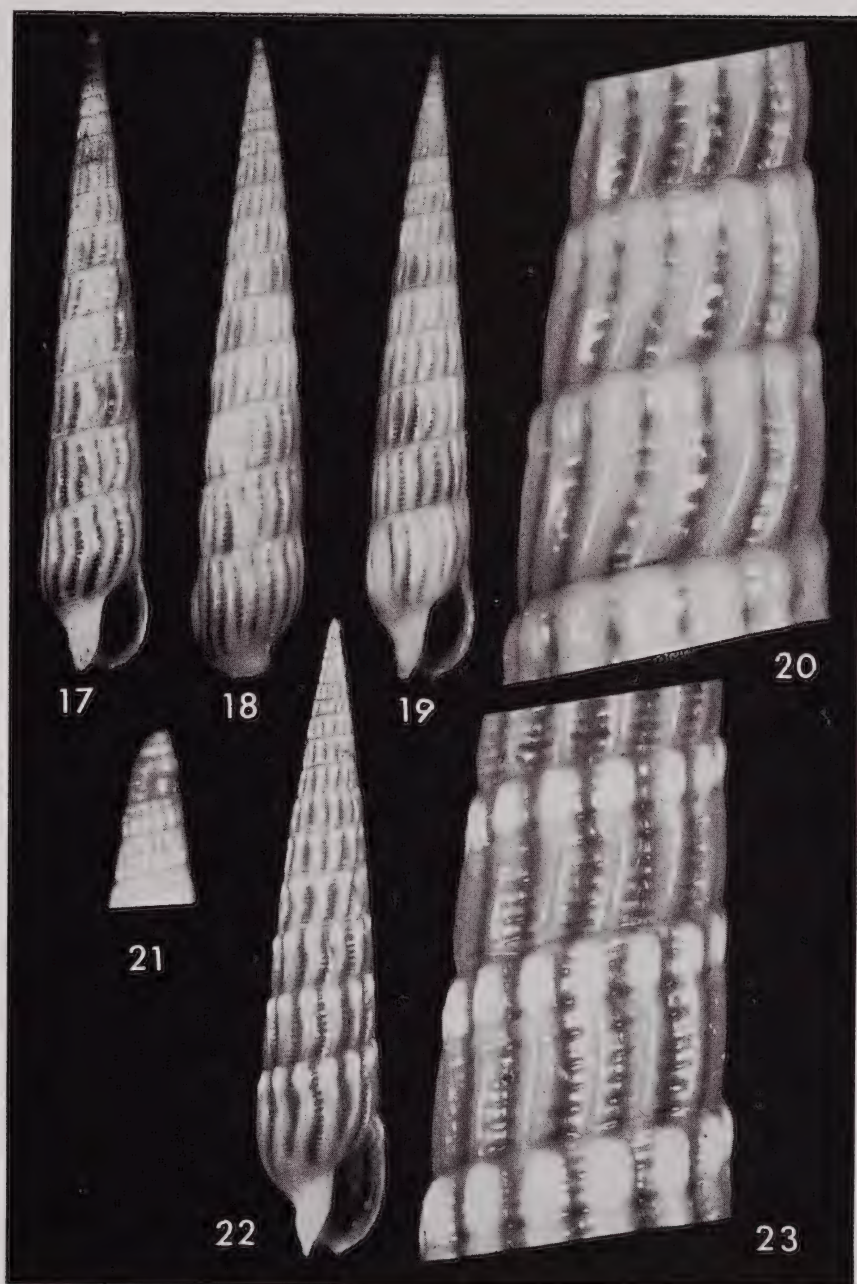
TYPE LOCALITY. Nordup, East New Britain, 24 metres.

DISTRIBUTION. From New Britain to the Red Sea.

*Holotype*. Auckland Institute and Museum No. TM-1347; length 29.4 mm, width 5.2 mm (Figs. 17, 18).

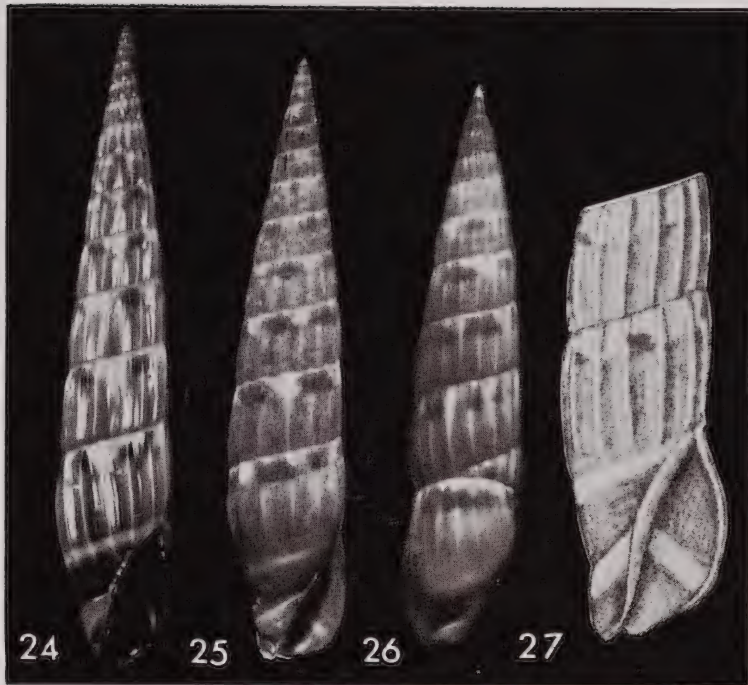
*Paratypes*. Several paratypes from New Britain in the National Museum of Nat. History, Washington; Delaware Museum of Nat. Hist; coll. B. Parkinson, Rabaul; coll. H. Eker, Sanibel, and the authors' collection; two paratypes from Ras Andadda, Ethiopia, and from the Dahlak Archipelago, Red Sea, in the Hebrew University of Jerusalem, and one paratype from New Guinea in coll. O. K. McCausland.

In some individuals of *T.parkinsoni* all the interspaces of the axial ribs are coloured with orange-brown of varying strength with the exception of the first 7-8 post-embryonic whorls, while others have large areas devoid of this colouring. The closest relative of *T.parkinsoni* is *T.undulata* Gray, 1834 (Figs. 22, 23), but this species differs in the following characters: it is broader (*T.parkinsoni* 17% - 19% width of length, *T.undulata* 20% - 24%), the prominent sutural nodules give the shell a turreted appearance, axial ribs are straighter, the interstices are broader and of about the same width right up to the sutural band, whereas in *T.parkinsoni* the axial ribs are almost fused together at the posterior end of the sutural band, the spiral sculpture is crisper in *T.undulata*, with deeper and longer



Figs. 17-23. 17-21. *Terebra parkinsoni* sp.n. Nordup, E. New Britain. 17,18. Holotype AIM No. TM-1347; length 29.4 mm, width 5.2 mm. 19. Paratype 28.6 x 4.9 mm. 20. Sculptural detail of mid-whorls. 21. Protoconch. 22,23 *T.undulata* Gray; Nordup, E. New Britain, 28.6 x 6.0 mm.





Figs. 24-27. *Hastula matheroniana* (Deshayes). 24. Specimen from Teuma Bay, Efate I, New Hebrides, 37 - 46 m; length 24.0 mm. 25,26. Holotype of *H. matheroniana* (Deshayes), École de Mines, Paris; 18.0 mm. x 3.0 mm. Type-figure of *H. strigilata sumatrana* (Thiele); 25.0 x 4.0 mm (from Thiele, 1925, pl. 29, fig. 20).

spiral grooves which ascend the walls of the axial ribs without reaching the summit. The colouring of *T. undulata* is very constant throughout in a large series of specimens: the base colour is tan to orange-brown, the interspaces are regularly ornamented with dark brown and the distinct sutural nodules are white.

The species is named for Mr Brian Parkinson, Rabaul, New Britain, who collected several specimens of the new species in New Britain.

#### Genus *Hastula* H. & A. Adams, 1853

*Hastula* H. & A. Adams, 1853, Gen. Rec. Moll. 1 : 225. Type species by SD (Cossmann, 1896) *Buccinum strigilatum* Linnaeus, 1758. Recent, Indo-Pacific.

#### *Hastula matheroniana* (Deshayes, 1859)

(Figs. 24-27)

1859. *Terebra matheroniana* Deshayes, Proc. Zool. Soc. Lond. Pt. 27 : 287; 1880 v. Martens, Beitr. Meeresf. Mauritius & Seychellen, p. 230; 1935 Dautzenberg, Mém. Mus. Roy. d'Hist. Nat. Belg. 2 (17) : 37; 1944 Tomlin, J. Conch. 22 (5) : 105.
1869. *Terebra lauta* Pease, Americ. J. Conch. 5 (1) : 66; 1885 Tryon, Man. Conch. 7 : 33, pl. 10, fig. 91 (figd. type specimen); 1952 Tinker, Pacif. Sea shells p. 16, facing pl., figs. bottom row right and left).
1925. *Terebra strigilata sumatrana* Thiele, Wiss. Ergeb. Deut. Tief. Exped. "Valdivia" 17 : 344, pl. 29, fig. 20.
1960. *Hastula lauta* (Pease), Weaver, Hawaiian Mar. Moll. 1(8) : 30, pl. 8, fig. top right; 1966 Cernohorsky & Jennings, Veliger, 9 (1) : 60/41 pl.7, fig. 51; 1967 Cernohorsky, Mar. shells Pacific 1 : 210, pl. 54, fig. 404.

TYPE LOCALITY. Tahiti, Society Is (*T.matheroniana*); Oahu, Hawaiian Is (*T.lauta*); Padang, Sumatra, Indonesia (*T.strigilata sumatrana*).

*Type specimens.* The holotype of *T.matheroniana* Deshayes, is in the École de Mines, Paris, dimensions 18.0 x 3.0 mm (Figs. 25, 26). The location of the type of *T.lauta* Pease, has not been traced; the given dimensions are 26.0 x 6.0 mm. The type of *T.strigilata sumatrana* Thiele is in the Humboldt University Zoological Museum, Berlin, given dimensions 25.0 x 4.0 mm (Thiele 1925) (Fig. 27).

DISTRIBUTION. From the Hawaiian Is to Mauritius.

*H.matheroniana* has not been illustrated by Deshayes (1859) nor by Reeve (1860), and the identity has long remained in doubt. The species has been described from specimens in Deshayes' own collection and a recent examination of the types of *H.matheroniana* shows the species to be conspecific with, and chronologically prior to *H.lauta* (Pease).

*Acknowledgements.* We wish to express our thanks to the curators and staff of the British Museum (Nat. Hist.), London, the Muséum National d'Histoire Naturelle, Paris, the École de Mines, Paris, and the Secretary, Linnean Society of London, for allowing access to their respective type-collections of Terebridae. To Dr H. Mienis, Hebrew University of Jerusalem, Mr. O. K. McCausland, Honolulu, Hawaii, and Mr Brian Parkinson, Rabaul, New Britain, we are grateful for the loan of terebrid specimens. We would like to thank Ms S. D. Kaicher, St. Petersburg, Florida, for having made prints from negatives of type-specimens of Terebridae.

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